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THREE DECADES OF COMPARABLE WORTH RESEARCH: a

A CONTENT ANALYSIS

A Thesis

Presented to the

Faculty of

California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

in

Psychology

by

Joyce Michi Mochizuki

June 1990

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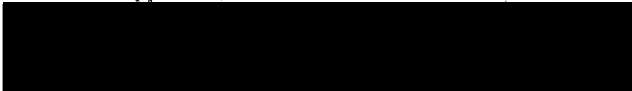
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ABSTRACT

A quantitative research technique called content analysis was performed on 107 comparable worth articles published in academic research journals between the years 1963 and 1989. The relationship between attitudes toward comparable worth and factors such as gender of first author, type of academic journal published; empirical or theoretical research, and mention of the landmark Gunther Supreme Court case was tested using Chi-square analyses. Additionally, both the cause and the preferred solution to the wage gap was evaluated using Sign Tests. Interrater reliability was calculated for both student and faculty raters on each of the major variables.

The trends between the three recent decades could not be investigated due to a lack of articles published on the topic prior to 1980, however, the trends within the 1980s were examined. Female authors generally had more positive attitudes than male authors toward the comparable worth issue. Academic empirical journal articles were more positive towards the comparable worth issue than were theoretical articles. Societal causes were viewed as more responsible for the wage gap than were sex discriminatory causes. Finally, job evaluation remedies were viewed as more important to close the wage gap than were societal remedies.

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INTRODUCTION

Women have earned lower wages than men throughout the world since the beginning of recorded history. Not only have they earned lower wages in general, they have earned lower wages for performing similar tasks to those performed by men. Pay inequity has been prevalent throughout history on a fairly global level, but it has also been the rule throughout the history of America. In his 1832 report to the United States House of Representatives, Secretary of the Treasury Louis McLane described many instances of women earning considerably less than men within identical establishments (Buckley, 1977). One such example was that the 1,300 women employed in Boston tailoring shops earned 25 percent of the wages of the male employees in the same tailoring shops (Buckley, 1977).

In order to provide some valuable insight on the future movement and direction possible for women's pay, it is important to compare the overall difference in change of minority male salary with the minimal raise in women's salaries during the same time period. Since the early twentieth century, the economic status of black and other minority men has improved significantly while the economic status of women has risen only slightly and very gradually, if at all (Treiman & Hartmann, 1981). The difference in

earnings between men and women is greater than the difference in earnings between minorities and nonminorities as a whole. While the difference in earnings between minority and nonminority men has declined since 1955, the difference in pay between men and women has not; Treiman and Hartmann (1981) state that 40 percent of the minority earnings difference was eliminated between 1955 and 1975. According to a U.S. Department of Commerce, Bureau of the Census report covering the years 1955 to 1977, women earned 64 percent of men's earnings in 1955. In 1977, according to the same census information, women earned 59 percent of men's earnings (Remick, 1984). More recent information reports that in 1988 women earned 62 percent of wages earned by men (Pommerenke, 1988). The raise in minority male salary here shows that trends in wages are not static, rather, that positive changes can be made in earnings. In particular, this shows promise for the possible rise of the future female salary to a level comparable to men.

There are several views offering different approaches to closing the male/female wage gap. According to one view, much of the discrepancy in pay between men's and women's wages is the result of decisions freely made by women; decisions about what occupations to enter, how much to work, and when to enter or leave the labor force (Aaron & Lougy, 1986). Within this view, women make less than men in terms

of wages because they choose occupations which are low paying, require little training or few skills, are easy to enter and leave, are not physically dangerous, and have low productivity. Women can equalize their earnings with men according to this view only if they seek equal or similar training, enter the same occupations, and continue working in the labor force without taking extended periods of leave (Aaron & Lougy, 1986).

According to a second view, jobs which require similar skills and are comprised of similar working conditions are of similar "worth" to an employer, but may be paid unequally because of habit, tradition, or discrimination (Aaron & Lougy, 1986). Under this second approach, the wage gap can be narrowed either by 1) employers hiring more women in traditionally male dominated jobs, or 2) wages can be "equalized" for jobs held predominantly by either gender which are evaluated as similar. This second approach taken to increase relative female earnings is known as "comparable worth".

Comparable Worth

There are numerous definitions of comparable worth, yet not one has been agreed upon even by proponents (Hartmann, 1985; Remick, 1984 & 1981; Livernash, 1980). Many authors agree that it is a very difficult concept to define. Although it has been said that no consensus exists regarding

its meaning and implementation (Mahoney, Rynes & Rosen, 1984), comparable worth is an issue that has been defined by at least one researcher as "A concept requiring equal pay for employees whose work is of comparable value even if their jobs are totally different from each other" (DeForrest, 1984, p. 4). Many writers who offer their own version of the definition provide similar meanings to the concept. The author of the definition stated above also intended it to mean that entry level jobs for both men and women should be paid equally regardless of the amount of women or men who comprise each respective job (DeForrest, 1984).

There are at least two different interpretations of the comparable worth doctrine as noted in The Comparable Worth Issue: A BNA Special Report (The Bureau of National Affairs, 1981). The "pure" comparable worth doctrine follows that even though workers are performing totally different jobs which are of comparable value to their employer (for example nurses v. tree trimmers), it is viewed as discrimination when workers of one sex (nurses) earn less pay than workers of the other sex (tree trimmers). (The relative value of jobs to an employer is measured by job evaluation techniques.)

According to the "common" comparable worth doctrine, it is discriminatory to pay workers of one sex in one job

category less than workers of the opposite sex in the same general job classification when the two groups are not performing the same work but are performing work of comparable worth to the employer (the example given is stockroom packagers v. stockroom leaders) (The Bureau of National Affairs, 1981).

While it may be difficult to attain legal backing for the "pure" comparable worth doctrine even when "worth" is measured by job evaluation schemes, this does not mean that women cannot pursue "equal pay for equal worth" in the "common" comparable worth doctrine (one that says men and women should be paid comparably when they are working in the same general job classification category and performing work which is different in content but of equal worth to the employer).

Comparable worth has been proposed as a solution to pay inequity, and has been given much attention during the most recent decade. The Bureau of National Affairs (1981) projected in the early 1980s that comparable worth was destined to be one of the hottest issues debated in the 1980s. The Equal Employment Opportunity Commission called it "the issue of the eighties", while a federal judge said it was "pregnant with the possibility of disrupting the entire economic system of the United States of America" (Remick, 1984). Clarence Pendleton, chairman of the United

States Commission on Civil Rights called comparable worth "the looniest idea since 'Looney Tunes' came on the scene," (Pendleton, 1985).

Among other things, comparable worth addresses the gender difference in worker compensation that cannot be otherwise explained (Remick, 1984). It has been called the "last major unresolved issue in equal employment opportunity law" by the Bureau of National Affairs (1981).

This thesis will present next an outline of the history of comparable worth, including the history of comparable worth legislation, then bring the reader up to date with the current legal aspects of comparable worth. Finally, it will describe events that have occurred in comparable worth legality.

Comparable Worth History and Legislation

Throughout the development of comparable worth legislation in America, the United States Federal Government was in the lead among major employers to endorse the equal pay principle by passing a law which gave department heads within Government agencies the permission to pay women equal salaries (Buckley, 1977). (Although within this law officials could still specify the sex of the incumbent wanted to fill a particular job.)

Several other important legal actions were taken in the history of current comparable worth development as outlined

in Buckley (1977). The Civil Service Act of 1883 set up a merit system which allowed women to compete in Federal civil service examinations on the same basis as men. Under the Classification Act of 1923, the Federal Government became one of the first employers to put into effect a pay system which did not consider the sex of an employee holding a job but rather based the salary of each job on the duties and responsibilities of that job (Buckley, 1977). Buckley, in Pettman (1977), cites other examples of the Federal Government taking a forward stance in supporting women in the labor force, but there remained a need for legal action to a much greater degree.

At present although the status of comparable worth claims under federal law is uncertain, there are two major laws covering employment discrimination: the Equal Pay Act of 1963 (an amendment to the Fair Labor Standards Act) and the Civil Rights Act of 1964 (Stonebraker & LaVan, 1987; Treiman & Hartmann, 1981). The concept of comparable worth has its roots in the Equal Pay Act (DeForrest, 1984) and is also tied to the Civil Rights Act, therefore these issues will be discussed first before delving further into the concept of comparable worth.

Equal Pay Act of 1963

When Congress passed the Equal Pay Act of 1963, the underlining intention was "to prohibit discrimination on

account of sex in the payment of wages by employers engaged in commerce or in the production of goods for commerce" (Buckley, 1977). This act requires women and men to be compensated equally on the basis of skill level, effort, responsibility, and working conditions (DeForrest, 1984; Willborn, 1986). Pay differentials on the basis of merit systems, seniority systems, quality or quantity measures, and differentials based on any factor other than sex are permitted as exceptions under the act (Patten, 1988; Milkovich, 1980; Buckley, 1977).

Because the Act was an amendment to the Fair Labor Standards Act of 1938, it was confined to workers covered by the 1938 law, leaving 15 million "exempt" employees including executive, administrative, professional, and outside salespeople not covered by its protection. The Education Amendments of 1972 was a Public Law which removed this shortcoming of the Equal Pay Act by giving equal pay protection to these formally exempt employees (Buckley, 1977).

Civil Rights Act of 1964

The Civil Rights Act of 1964 was primarily concerned with the constitutional rights of black Americans, although Title VII, an amendment to the 1964 Civil Rights Act (further known as the Bennett Amendment) goes beyond the Equal Pay Act in several important issues which deal with

equal employment opportunities (Buckley, 1977) and was intended to resolve conflicts between the two acts (Willborn, 1986). Congress attempted to clarify the relationship between the Equal Pay Act and the Civil Rights Act by passing the Bennett Amendment which allowed for differences in wages as outlined by the exceptions in the original Equal Pay act stated above (DeForrest, 1984; Milkovich, 1980; Williams & McDowell, 1980).

The amendment to 703(h) of Title VII makes it unlawful for any employer of fifteen or more employees to discriminate against any individual because of sex, race, color, religion, or national origin in any area of employment. The areas of employment include hiring, layoffs and discharges, segregation, classification, wages, fringe benefits, referring or failing to refer, work assignments, promotions, use of facilities, or training or retraining (Buckley, 1977; Williams & McDowell, 1980).

Next, the more current court proceedings associated with comparable worth issues that have been in the public focus will be discussed. These court cases shed new light on the legal status comparable worth holds, how the courts have decided comparable worth proceedings, and on which grounds the legal decisions have been based.

Landmark Cases

Several comparable worth court cases appear to be key to understanding the legal standing and status of comparable worth. The outcomes of these cases will be discussed and the respective impacts of their results will also be interpreted.

Gunther v. County of Washington. In the landmark decision of the Gunther v. County of Washington case the U.S. Supreme Court ruled that claims of discrimination in compensation were not limited only to equal work situations (Patten, 1988). After it had first been dismissed by both the District Court and the Ninth Circuit Court of Appeals, the Gunther case was taken to the Supreme Court and the decision made in 1981. In this case jail matrons claimed their employer was paying them less than male guards performing substantially equal work, thereby violating Title VII (Williams & McDowell, 1980; Patten, 1988).

The District Court dismissed the case on the grounds that the female jobs were not substantially equal to the male jobs, in essence requiring less effort and responsibility. The Ninth Circuit Court ratified the District Court's judgment that the matrons had not been denied equal pay for equal work (Williams & McDowell, 1980), and could not recover wages under the Equal Pay Act (Patten, 1988). The Ninth Circuit court, however, did support that

the jail matrons were not barred from suing under Title VII just because the jobs were not of substantially equal work (Patten, 1988).

Prior to the final decision given by the Supreme Court on the Gunther case, the most significant aspect gleaned from the case was based on the fact that female plaintiffs claiming wage discrimination under a Title VII charge would have to show evidence that their job requirements were substantially the same, not just comparable, to similar male positions. Because "a comparable work standard" could not be substituted for "an equal work standard" in wage discrimination cases brought under Title VII, the judicial decision did not substantiate the "comparable worth" theory (Williams & McDowell, 1980).

The final Supreme Court ruling, however, taken in a broad sense, was a signal that plaintiffs could challenge pay differentials on differing jobs (Patten, 1988). The Bennett Amendment which had used seemingly ambiguous language as follows, was the issue under scrutiny:

It shall not be an unlawful employment practice under this title for any employer to differentiate upon the basis of sex in determining the amount of wages or compensation paid or to be paid to employees of such employer if such differentiation is authorized by the provisions of section 6(d) of the Fair Labor Standards Act of 1938, as amended (29 U.S.C. 206 (d)) (the Equal Pay Act).

On the one hand the Bennett Amendment could be interpreted as including both 1) the four affirmative defenses permitting differences in pay, and 2) the equal work standard. On the other hand it could also be interpreted as including only the four affirmative defenses in the Civil Rights Act and not the equal work standard (Milkovich, 1980; Williams & McDowell, 1980).

The Supreme Court decided that the Amendment embodied the four affirmative standards of the Equal Pay Act: Use of a seniority system, a merit pay system, a measurement for the quantity or quality of production, or any factor besides sex, but not the equal work criterion of the act (Milkovich, 1980; Patten, 1988). The Bennett Amendment, with its ambiguous wording, had been mentioned as the source of confusion over the Civil Rights Act (Thomsen, 1978), but after the Supreme Court decision to exclude the equal pay component of the act, the comparable worth standard -- that is, equal pay for jobs of comparable worth -- has been seen as a "likely" substitute for equal work (Milkovich, 1980).

Although the Gunther decision may at first appear to be a step in the direction towards achieving comparable worth, the Supreme Court did not support the principle of comparable worth in their decision (Patten, 1988; Thornton, 1986). In the opinion of the Committee on Occupational Classification and Analysis, although the Supreme Court did

decide to leave out the equal work concept in favor of similar work, it did not make an explicit judgment regarding the validity of the comparable worth concept as a base for assessing pay equity. The court saw a judgment on comparable worth as not relevant in this particular dispute (Treiman & Hartmann, 1981).

Patten (1988) also states that in the court's decision in the Gunther case, the real issue proved by the plaintiffs was intentional sex discrimination. Other cases since Gunther have endorsed the key issue as that of intentional sex discrimination rather than one of comparable worth when charges of unequal pay for work of equal worth have come up in the legal realm (Patten, 1988). (For additional information regarding this issue read Lemons v. City and County of Denver [620 F.2d 228 (10th Cir. 1980)] in Fair Pay: The managerial challenge of comparable job worth and job evaluation by Thomas H. Patten, Jr. (1988).)

AFSCME v. State of Washington.

Even with the Gunther case opening the door for comparable worth few courts have touched the issue. The 1983 American Federation of State, County and Municipal Employees (AFSCME) v. State of Washington was the first court case where the employer was held liable "for discriminating on the basis of sex in setting wages for functionally unrelated jobs" (Siniscalco & Remmers, 1984;

Scheibel, 1987). In this highly publicized case the plaintiffs won an \$800 million comparable worth judgment against the State of Washington in the district court, but in 1985 the Ninth Circuit Court of Appeals overturned both the district court's decision and the damage award (Scheibel, 1987).

The events leading to this case started in the early 1970s. The state was concerned its wage rates might be sex biased and instigated an evaluation of certain job categories (Bellace, 1987; Seligman, 1984). A consulting firm was engaged in 1974 and looked at 59 predominantly (70 percent or more) male and 62 predominantly (70 percent or more) female jobs based on knowledge and skills, mental demands, accountability, and working conditions (Bellace, 1987). The study found that the male jobs were paid about 20 percent more than the female jobs after adjusting for point scores given to each job during the job evaluation process (Seligman, 1984). For several years the state did nothing to implement the report (Bellace, 1987).

Washington State did eventually pass a law to implement comparable worth over a 10-year-period, but in 1981 AFSCME filed suit against the state for not taking immediate action following their own study (Johnson, 1985; Remmick, 1983). The U.S. District Court found the State of Washington guilty of discrimination and ordered immediate renumeration for

damages (Tuerck, 1986; Seligman, 1984), but the Appeals Court overruled the settlement stating that the wage gap did not show intentional discrimination against women and that employers may use prevailing market wages to set salaries even if they underpay women. Furthermore, the Court ruled that the state is not obligated under the 1964 Civil Rights Act "to eliminate an economic inequality which it did not create" (Johnson, 1985). AFSCME and the state has since agreed to settle out of court (Seligman 1984) and the state has put aside \$482 million to be recompensated over a seven-year period according to the settlement (Anonymous, 1986). From this and several other court rulings, it seems evident that a "pure" comparable worth case (one that states a salary discrepancy exists between jobs of one sex compared to jobs of another sex and this discrepancy alone indicates discrimination) does not have much chance of winning in future court cases (Scheibel, 1988).

Political leadership and the economic effects of putting comparable worth into action are two aspects of the sociopolitical effects of comparable worth which will be discussed in further detail in the following section.

Sociopolitical Effects of Comparable Worth

Political Leadership

Evidence of differing sociopolitical effects on comparable worth policy under different presidential

leadership has been noted by various sources. Under President Carter the EEOC and the Department of Labor proposed comparable worth concepts be included in interpreting the already existing discrimination laws, but these efforts have been dropped under the Reagan era (Remick, 1981).

Experts on comparable worth have unanimously agreed that the Reagan administration did not support the comparable worth issue and that its growth was hindered during this era. Reichenberg stated that the Reagan Administration, through the EEOC and the Department of Justice, consistently opposed pay equity (1986). Joyce Miller, director of the Coalition of Labor Union Women (CLUW), expected the outlook for comparable worth to be very bleak at the beginning of the Reagan administration, and stated it was a disgrace this same administration had put down the efforts to gain affirmative action for women. She (correctly) expected Congress not to write comparable worth into the law under that administration (The Bureau of National Affairs, 1981). Carole Wilson, associate general counsel for the International Union of Electrical Workers (IUE), believed that unions would be the strongest supporters of comparable worth and that they would take up the slack in eradicating discrimination if the government will not do it (The Bureau of National Affairs, 1981).

Acknowledging the cold reaction of the Reagan Administration toward some affirmative action issues, Ruth Blumrosen has stated that although the response from governmental agencies is relevant in determining policy, it is not conclusive. Because in the past it has been individuals, rather than governmental policy, which has had the strongest force in the Title VII law, she has suggested that individuals have the right to go to court after appealing to an administrative agency (The Bureau of National Affairs, 1981).

Costs of Implementing Comparable Worth

Although Buchele and Aldrich (1985) suggested that comparable worth (providing equal returns to their measures of job requirements) would reduce the earnings gap by about 63 percent and requiring equal returns to job tenure would reduce the gap by an additional 35 percent, the economic implications of comparable worth has brought about much controversy and differences in opinion among advocates and critics (Patten, 1988; Killingsworth, 1987; Gold, 1983). The wide range of possible effects implied have varied considerably. Patten called the costs of implementing comparable worth "moderate, if not modest" (1988). The National Committee on Pay Equity believes that most states would be able to gradually implement pay equity at a cost of

2 to 5 percent of payroll budget over two to four years (Patten, 1988).

Critics state that attempts to implement comparable worth would price several millions of low-productivity workers out of the labor market, increasing poverty, and bringing about much bankruptcy or voluntary closure of small firms (Livernash, 1980). Killingsworth stated that comparable worth will make it costly to employ low-wage employees, resulting in having to impose a tax on those employers who do so and giving the revenues from the tax to those workers who were able to keep their jobs after the tax went into effect (1987). Lieberman also states that implementing comparable worth will have consequences opposite to those intended by supporters, by "freezing the existing proportions of males and females in existing occupations," and "slowing down the trend to increasing female entry into predominantly male occupations" (1986).

There has been almost no research conducted which investigates the effects on the U.S. economy of instituting a comparable worth policy (Hartmann, 1985). While many state that implementing comparable worth would bring disastrous results for the economic system, many also state that there would be no negative results associated. There is no empirical evidence supporting either view (Hartmann, 1985).

Various strategies of alternative pay adjustments have been suggested, among them including raising salaries of low-paying women's jobs to the average level of salaries for comparable men's jobs within the same enterprise, lowering the salaries of men's jobs to equal comparable women's jobs (illegal except under certain conditions), and raising the salaries of lower paying jobs at a faster rate than the salaries of the higher paying jobs (Hartmann, 1985). Hartmann suggested that the benefits and costs of all comparable worth, equal employment opportunity, and affirmative action strategies need to be carefully considered for each of their differing consequences (1985). She goes on to say that the economic and noneconomic consequences of each type of strategy along with the importance of their respective effects must be evaluated individually before being taken into action.

Because comparable worth is part of the larger issue of pay equity (The Bureau of National Affairs, 1981), it may be helpful to have an overall framework to discuss pay inequity. This framework attempts to expound on two levels of comparable worth research, macrolevel and microlevel, and the different approaches taken by each level to explain pay differences in gender. The macrolevel research which is based in sociology and economics proposes that differences in pay between genders result from the differences in men

and women's distribution in certain occupational jobs and categories (job segregation), the differences in the industrial sectors in which they are located as well as the characteristics of the types of firms in which they are employed, and their differences in human capital (Auster, 1989). The microlevel research which is based in psychology and social psychology focuses primarily on the evaluation procedures within organizations, and addresses wage discrimination from the aspect of a pro-male bias affecting the performance appraisal and job evaluation processes (Auster, 1989).

Auster holds that both levels of research contribute to the understanding of male/female wage differentials, and that deficiencies of both levels can be overcome by integrating the macro- and microlevel research (1989). (For more information, see Auster, 1989.)

Macrolevel Research

Occupational Segregation

Because more than 75% of all working women are employed in only 20 occupations out of the 475 total classified by the U.S. Department of Labor, job segregation appears to be a major contributing factor in pay discrepancy (California Commission of the Status of Women, 1983). Occupational segregation can limit women's labor force entry opportunities and access to career ladders that include

greater income and prestige rewards (Waite & Berryman, 1985).

Occupational segregation has often been studied as a factor contributing to lower salaries for women when compared to men (Mahoney & Blake, 1987). Men and women tend to hold different types of jobs so occupational segregation is often referred to as job segregation (Treiman & Hartmann, 1981). Lloyd and Niemi (1979) found that differences in the occupational distributions of men and women account primarily for the substantial wage differences remaining after both demographic and human capital (investment in oneself) differences between the sexes have been controlled, and Norwood (1984) notes that the size of the wage gap shrinks as considerations such as occupation, education, work experience, and age are taken into account. Treiman and Hartmann (1981) give evidence that when 479 job categories were used in a decomposition of earnings differentials between men and women on 1970 census data, occupational segregation accounted for about 35-40 percent of the difference.

Although the exact figures differ among authors and among different census information it is typically noted that occupational sex segregation is prominent by sex, much more so than by race (Treiman & Hartmann, 1981). The definition of a predominantly male job is one in which 80

percent or more employed in that job are men, whereas the definition of a predominantly female job is one in which 70 percent or more employed in that job are women (Aldrich & Buchele, 1986). These definitions are based on arbitrary cutoffs, with a lower cutoff for female prevalent jobs because females comprise less than half of the labor force. The majority of women work in female prevalent occupations in which 70 percent or more of the workers are female, and 25 percent of women work in jobs which are more than 95 percent female (McCarthy & Conner, 1984; Volz & Breitenbeck, 1984). Women are concentrated in fewer occupational groups than men (Rytina, 1981; Eyde, 1983) and the jobs in those groups tend to pay less (Kligner, 1988).

As an example of occupational segregation, Maahs, Morrow & McElroy note that in 1978 although only 9.9 percent of women held predominantly male jobs, 68.5 percent held traditionally female jobs, and 21.6 percent held jobs not sex stereotyped (1985). Additionally, more recent statistics updated since 1978 show this distribution has not changed much (Maahs, Morrow, & McElroy, 1985).

The question of how women become concentrated in lower-paying jobs remains to be conclusively answered but Treiman and Hartmann have have offered three explanations: Women choose educations and jobs that lead to poor pay for reasons besides pay (socialization), women are excluded from jobs

that pay higher wages, (discrimination), and jobs that women tend to hold are underpaid because they are held by women (underpayment of women's work) (1981).

Socialization

Women may be socialized to accept that certain types of jobs are appropriate for women and likewise that others are inappropriate for women. Women may choose certain courses of study that they feel appropriate to them which consequently make it difficult for them to gain the education or training required for other types of jobs. Women may also lack information regarding all available jobs. If information is not lacking they may consciously exclude themselves from other jobs because of family obligations and expectations or because of expected difficulties with discrimination (Treiman & Hartmann, 1981).

Discrimination

Discrimination against women, including the discriminatory exclusion of women from higher-level jobs, has been another factor influencing job segregation focused on by comparable worth researchers. Discrimination is highly intertwined with other aspects of job segregation stated above, which have to do with women's decision making. Despite recent legislation to protect women's rights in the labor market, discriminatory practices still continue in the form of denial of employment and restriction in promotion

opportunities (Treiman and Hartmann, 1981; Booker and Nuckolls, 1986).

Treiman and Hartmann (1981) stated that whereas it is difficult to establish discriminatory intent on the part of employers, patterns of employment can be studied within firms to see if their hiring practices extended to women and men are consistent with their qualifications, thereby establishing whether organizations discriminate against women in occupational assignment. Such a study conducted by Malkiel and Malkiel in 1973 found that in one firm, although discrimination was not found in the form for unequal pay for equal work, there was discrimination in job assignment in the form of women being assigned to lower-level positions than men hired with the same qualifications (Treiman & Hartmann, 1981). As this example suggests, the role of discrimination is often difficult to assess directly.

Underpayment of Women's Work

Although evidence is difficult to amass, the third explanation given by Treiman and Hartmann of why jobs held by women earn lower pay is the fact that they are held by women (1981). This theory supposes that the same jobs, if they were held by men, would be paid higher wages. The evidence for this type of underpayment of women's work can be obtained from job evaluation studies. Job evaluation will be discussed in fuller detail later in this thesis, but

in short, it is a method in which employers can measure the comparable value of jobs so that pay rates can be assigned to them. Job evaluation studies that show that positions filled mainly by women are paid lower than positions filled mainly by men, although the positions are judged to be equal in value, are taken as evidence in support of this theory (Treiman & Hartmann, 1981).

There are also several additional factors which may contribute to the male/female salary differential, as noted by the California Commission of the Status of Women (1983). These are labor market conditions, employee characteristics, content of work, and union membership, all to be discussed in further detail in later sections. The Commission stated that other bases for pay differentials, namely the educational level of women and the employment pattern of women in the labor market, cited in previous times to be correlated with earnings should no longer be viewed as valid contributors to the male/female wage disparity. This is largely due to the fact that the general educational level attained by women is now equal to that of men, and many women are beginning to enter and stay in the labor market for 30-year careers (Hartmann & Treiman, 1983).

Educational Level

The educational level of women has been equal to or greater than that of men for some time, although women tend

to focus their education in majors which lead to low pay. Despite the rise in their education, women and black men have lower earnings than white men at every level of education attained (Treiman & Hartmann, 1981). Moreover, the Committee on Occupational Classification and Analysis stated that the average earnings of both white women and black women with college degrees are lower than the average earnings of white men with eighth grade educations (Remmick, 1981; Treiman & Hartmann, 1981).

Trend in Labor Force Participation of Women

The most significant difference in the behavior of women in the labor market as compared to the past is in labor force participation, with women continuing to work in the labor market instead of leaving after a few years of participation. The U.S. Department of Labor currently projects 25 to 35 year work lives for the average woman (California Commission of the Status of Women, 1983). Other more recent data document that women are now postponing marriage and childbirth and limiting family size so that they will be able to enter the labor market and stay out for minimal time (Booker and Nuckolls, 1986). Booker and Nuckolls state that women also have similar work histories as men; spending 90 percent of their time in the labor market after schooling, but yet do not receive similar rewards to those of men (1986).

Economic Effects of Occupational Segregation

It is clear that women and men perform different jobs. It is also clear that occupational or job segregation has a major impact on women's wages and salaries. Most researchers are in agreement that job segregation has a likely negative effect on women's wages, and that the male/female wage gap can be attributed to this segregation by sex (Committee on Occupational Classification and Analysis, 1984; Aldrich & Buchele, 1986). By opinion of the National Academy of Sciences' 1984 study, also referenced by Aldrich and Buchele (1986), as an occupation's composition of women increases, the overall pay of the occupation decreases and women's relative pay to men in that field increases. Aldrich and Buchele gave an example of this by stating that 81 percent of elementary school teachers, a traditionally low-paying occupation, are women and are paid 80 percent of male elementary school teachers' salaries, whereas 9.5 percent of foremen (higher paying occupation compared to elementary school teachers) are women and are paid 60 percent of male foremen's pay (1986).

Johnson and Solon (1986) provide additional examples of jobs which have large differences in gender composition, such as truckdrivers versus secretaries, engineers versus librarians, and professors of economics versus professors of art history, with the jobs composed largely of men in higher

paid jobs. The National Academy of Sciences' study also includes a simple regression representing the relationship between percent female and annualized median earnings of job incumbents for the 499 occupations included in the 1970 census. According to these data, each percent female in an occupation has an average of \$42 decrease in annual outcome, with "women's work" paying overall on the average \$4,000 less annually than "men's work" (1984).

Volz and Breitenbeck (1984) mentioned that in 1979, 85 percent of working women occupied fifteen out of the 200 Labor Department job classifications, and 25 percent of women workers were in occupations that were composed of 95 percent women, including secretarial, nursing, and medical assisting work. According to further data given by Volz and Breitenbeck, the 20 top-paid occupations for men in 1982 had an average range between \$507 - \$619 per week. In comparison, the 20 top-paid occupations for women in the same year had an average range between \$312 - \$422 per week (1984).

In conclusion regarding the economic effects of job segregation, many researchers (Treiman and Hartmann, Aldrich and Buchele, Booker and Nuckolls) are in agreement that job segregation and the factors associated with it stated above influence a major part of the male/female wage gap. It is

almost unanimously agreed that when there is a pay discrepancy, women are the ones who are negatively affected.

The human capital theory approach is the next macrolevel research topic to be covered in this thesis. In this approach factors such as the personal characteristics of workers are used to explain the wage differential between men and women (Auster, 1989).

Human Capital Theory

The human capital approach to earnings developed by Becker and Mincer in the early 1960s stipulates that the gross annual income of an individual can be influenced by past human capital factors such as education, age, seniority, on-the-job-training, work experience, continuity of work history, health, effort, or commitment, (Malkiel & Malkiel, 1973; Auster, 1989), which in turn affect levels of productivity. This theory posits individuals invest in human capital much as they would physical capital expecting their future earnings to compensate for earnings lost and other costs of investing in themselves (Lewis, 1985; Treiman & Hartmann, 1981).

The human capital theory approach attributes the differences in earnings between men and women to differences in their personal characteristics, or human capital, and attributes the differences left in pay after all human capital factors have been accounted for to discrimination

(Treiman & Hartmann, 1981; Lewis, 1985; Bergmann, 1987; Auster, 1989). Men have traditionally invested in more years of work training and experience by entering the labor market and staying throughout their career, without taking extended leaves of absence to perform other duties such as childbearing and childrearing, as have women. Research performed by Mincer and Polachek (1974) suggests that women who choose to discontinue their working careers (thereby losing months or years of potentially valuable work experience and training), do not receive the steep rise in earnings correlated with gains in market experience which is characteristic of white males.

Not only do women chose to take time out for other activities within their working careers, they also make a variety of choices which in part may result in lower paying jobs (Fishel & Lazear, 1986). Women may chose college majors which are concentrated in less market-oriented academic disciplines, they may choose jobs which allow them to freely enter and exit the labor market with minimal loss, they may invest in gaining skills which do not decline through temporary career leaves, or they may avoid jobs which are inconsistent with their childcare and household duties, (such that require long or unpredictable work hours, extensive training, travel, or relocation (Mincer & Polachek; Fishel & Lazear, 1986)).

The human capital theory does not support attributing the wage gap to discrimination. Not all women make choices similar to the ones mentioned above which land them lower paying jobs, but the women who make larger investments in their human capital receive much less reward or compensation for their investments than do men with the same investments (Patten, 1988), Treiman & Hartmann, 1981). In fact, women gain lower returns for the same capital as men at all levels of human capital attained (Treiman & Hartmann, 1981).

From a methodological standpoint, measuring the differences in productivity as a result of differences in personal characteristics is an almost impossible task, and has caused difficulties for researchers attempting to do so (for example see Malkiel and Malkiel, 1973) (Treiman & Hartmann, 1981; Fishel & Lazear, 1986).

There is no consensus that it is productivity which solely affects wages, with many researchers arguing that custom, union strength, segregation, or economics of the industry also affect wages (Bibb & Form, 1977; Phelps-Brown, 1977; Piore, 1977; Treiman & Hartmann, 1981; Becker, 1986).

In further support of measurement difficulties of the human capital approach, the Committee on Occupational Classification and Analysis (Treiman & Hartmann, 1981) discussed several studies performed in the past using the human capital approach to explain the wage gap. Only two

studies have been successful in explaining more than 20 percent of the wage differential in terms of personal characteristics of workers (Mincer & Polachek, 1974; Corcoran & Duncan, 1979). The Committee believes the reason these studies, one by Mincer and Polachek, and the other by Corcoran and Duncan, explained less than 50 percent of the wage gap is that these studies used a measure of actual labor market experience that is much more complete than those used by other researchers (Treiman & Hartmann, 1981). Because of the difficulties associated with the human capital approach, its research methods, and with its indirect findings to explain discrimination, the Committee merely offers these studies mentioned as "suggestive," not as "definitive" support (Treiman & Hartmann, 1981).

The next two sections of macrolevel research to explain comparable worth both focus on a "structuralist" perspective as referenced by Auster (1989). They are explained as "the demand side of the market" and explain the role that industry and labor markets play in comparable worth which the human capital theory ("the supply side of the market") fails to recognize (Auster, 1989).

Labor Market Effects on Wage

Labor markets determine access to jobs, wage levels, work conditions, and other aspects of an employee's employment. Treiman and Hartmann (1981) define the

conventional model of a perfectly competitive labor market as one in which both demanders and suppliers of labor have complete information and total mobility within it. As a consequence of the bargaining of employees and employers and the constant adjustment of supply and demand, the worker is paid a figure exactly equal to his or her economic contribution (also known as the marginal revenue product) (Greenwood, 1984; Treiman & Hartmann, 1981).

A different model known as the institutional labor market is described by the Committee on Occupational Classification and Analysis and by others (Sorenson, 1984; Treiman & Hartmann, 1981; Doeringer & Piore, 1971). In this analysis the institution has several inflexible features which determine wages and other employment conditions. One of these institutional features is an internal labor market in which job openings are filled from within an organization and the external labor market's competition does not have a direct effect (Treiman & Hartmann, 1981).

Doeringer and Piore have focused extensively on labor markets and note that movement into and between large organizations relying on internal labor markets which have been created to increase stability and minimize turnover is difficult (1971). The forces of supply and demand used in the conventional model of labor markets are a strong influence only on entry-level positions (Treiman, 1979).

Market wages are also set and influenced by labor market segmentation and occupational segregation, employers' choice, exclusion of workers, underpayment of women's work, and discrimination from within (Treiman & Hartmann, 1981). Some advocates of equal pay for equal worth of jobs (comparable worth) have clearly rejected market wages as a basis for determining pay because they believe existing market wages have encouraged a history of discrimination against women in hiring, promotion, and pay decisions (Lieberman, 1986; Feldberg, 1984; Grune, 1982). These biases have turned the advocates of comparable worth to job evaluation in hopes that measures of job worth that are less prone to discrimination and "outdated social values" can be constructed (Friss, 1987; Remick, 1984; Treiman, 1979; Rynes & Milkovich, 1986).

Unions

Unions have been credited with a few of the most important successes achieved for pay equity to date (Patten, 1988). Labor unions were among the first groups to push for equal pay legislation for example (Buckley, 1977). The National Labor Union issued a resolution which urged Congress to pass laws guaranteeing equal pay for equal work for Federal employees in 1968. This same resolution also urged State Legislatures to follow the same path. Although this may be true, only fourteen percent of women workers

belong to unions in two categories; 1) government and 2) manufacturing and textiles (Patten, 1988).

According to Judy Fulghum (1984) of Consulting Partners, many comparable worth studies have been conducted in the past at the urging of union requests for an overall assessment of job relationships. Stonebraker & LaVan (1987) credit the contribution of unions to the comparable worth issue as largely a function of each union's membership. Some unions such as AFSCME strongly support comparable worth, perhaps fearing lawsuits from their large number of women constituents for failure of representation. Others have not spoken or taken action on the comparable worth issue, perhaps from fear of losing male members (Stonebraker & LaVan, 1987).

The overall strength of union involvement in comparable worth is seen in collective bargaining and the negotiations during and following two significant strikes: The San Jose strike and the Yale University strike. In the San Jose strike, a group of women working for the city submitted a proposal for affirmative action to the city council representing all women workers in 1977 (Patten, 1988). Because no action was taken by the city about the womens' request for a different compensation program than the existing market rates of pay, the group of women contacted

the local AFSCME union to be their bargaining power (Patten, 1988).

Through a formal collective bargaining process by the AFSCME and a nine-day strike following a deadlock in negotiations, a \$1.4 million settlement was achieved in September of 1984. This settlement allocated over a two year period was given to make internal adjustments for pay discrimination against females during a time when the city had no desire or intention to get involved in the comparable worth issue (Patten, 1988). Some believe that the San Jose strike induced women to think about collective bargaining as a useful device to improve their economic condition while others saw it as an event given direction by a union and city seeking to resolve pay inequities (Lorber, Kirk, Samuels, & Spellman, 1985; Patten, 1988).

Shortly after the San Jose strike was resolved, 1,600 clerical and technical staff members at Yale University struck in an effort to gain pay equity (Patten, 1988). While the attempt to organize the clerical and technical staff at Yale had not succeeded partly because of serious opposition from the university since the 1960s, in 1983 the Federation of Union Employees finally won the right of representation for the employees (Patten, 1988).

Yale had been consistently denying there was a problem with pay inequity. Even after a group of faculty and

graduate students conducted a study showing that after adjusting for age, time at Yale, time in grade and education, women on the average were underpaid \$700 compared to men and minorities \$1,000 compared to whites within the group, Yale continued to deny discrimination (Patten, 1988).

The union wanted more than the usual pay increases, and because they felt the employees' underpayment so obvious, did not request a job evaluation study to be conducted. Months of bargaining passed with no settlement on economic issues achieved, and Yale refused to admit to the problem or allow an outside arbitrator to be judge (Hutner, 1986; Patten, 1988).

The strike lasted for ten weeks in part because such strong emotions were involved. In late January 1985 Yale came to an agreement with the union and a three year contract resulted increasing wages an average of 35 percent including retroactive pay (Patten, 1988). The Yale case is considered a large victory for comparable worth and pay equity (Hutner, 1986; Patten, 1988).

Patten notes that unions' views are also inconsistent on the topic of job evaluation (1988). Craft unions that are male-dominated have been against job evaluation for many years, using the labor market pay as their bargaining power while industrial unions typically favor managerial use of

job evaluation, a method of assigning numerical values to jobs for the purpose of pay (Patten, 1988).

Next this thesis will turn from the macrolevel research topics contributing to the understanding of comparable worth to the microlevel research which includes the topic of job evaluation and focuses on the way cognitive and behavioral processes lend assistance to gender bias (Auster, 1989).

Microlevel Research

Job evaluation

The major goal of comparable worth policy is to eliminate the earnings disparity between men and women accounted for by occupational segregation (Steinberg, 1984, Sorenson, 1987), and to reduce the amount of overall pay disparity between men and women performing jobs of comparable worth (DeForrest, 1984). With the key words in this issue being "comparable worth," the main thrust of achieving this goal is finding a measurement to evaluate objectively jobs performed by men and women, a prerequisite for paying male and female workers the equal pay for work of equal worth underlying the Equal Pay Act. Job evaluation is the most commonly used method to measure value of a job (McNally & Shimmin, 1984) and has received considerable attention from academicians and practitioners alike.

Job evaluation is a formal and systematic method of comparing jobs and determining their relative value to an

organization (Elizur, 1987), as well as being a method to systematically compare different jobs to provide support for a grade and pay structure (Shimmin, 1987). The two basic objectives of job evaluation have been summarized as follows: "To compare jobs and determine their level within each occupational group," and "To compare jobs between occupational groups; that is, to see whether the level of job X in one occupational group is equivalent to, higher or lower than, job Y in another occupational group" (Elizur, 1987, p. 5).

Qualitative Techniques

There are two basic categories of job evaluation which have been in existence for many years, the qualitative technique, and the quantitative technique (Patten, 1988). The ranking and classification methods comprise the qualitative technique and the point method and factor comparison method comprise the quantitative technique (Patten, 1988; Elizur, 1987, Willborn, 1986).

Ranking method. Ranking is the oldest type of job evaluation and may likely be the most commonly used plan considering that many employers who claim not to have a job evaluation plan have at least some sort of unofficial method to rank jobs (Patten, 1988). It entails raters comparing jobs and rank ordering them, a task quite simple in a small organization with few jobs but very difficult when dealing

with a large number of jobs (Patten, 1988; Elizur, 1987). In this method jobs can be grossly rank ordered for a few jobs or functionally ranked for a larger amount of jobs (Patten, 1988).

Classification method. The classification method involves determining and describing job grades based on differences in skill and responsibility, in addition to classifying individual jobs into the basic grades by comparing the grade descriptions (Elizur, 1987). The classification method can be viewed as a refinement of ranking (Patten, 1988), and has been employed by the federal government for many years using the General Schedule of classified jobs formed under the Classification Act of 1949 as a system of predetermined grade descriptions into which thousands of jobs are assigned (Patten, 1988; Elizur, 1987). The major limitations of this method as stated by Elizur are overall assessment of jobs, the lack of clearly stated criteria for job comparison, and the lack of detail to justify why jobs should go in one class rather than in another (Elizur, 1987).

Quantitative Techniques

Point plan method. The point plan method of job evaluation involves breaking down a job into logical parts to be evaluated rather than evaluating the job as a whole entity as in the qualitative methods (Patten, 1988).

Usually a set of evaluation items are chosen and defined and ranks defined for each item (Elizur, 1987; Willborn, 1986). Jobs are then assigned a score for each item, with the sum of the scores providing the value of the job (Elizur, 1987; Willborn, 1986).

Authors of job evaluation such as Patten and Elizur have made an analogy between the point plan and a "yardstick" or "ruler" to measure jobs. This plan has been widely accepted as a popular technique to evaluate jobs because of it's use of clearly defined items which facilitate the ease of evaluation and reduce ambiguity.

Factor comparison method. The factor comparison method also divides jobs into different evaluation items, or factors, to be ranked but utilizes a committee to then turn those evaluation items into monetary values, relative to pay, given benchmark jobs (Elizur, 1987). The advantage of using this method is the explicit criteria stated for defining evaluation items whereas the drawbacks include not having clear principles for decisions made in each stage, depending on arbitrary committee judgments, and having no set standard for selection of benchmark jobs (Elizur, 1987). Quantitative job evaluation processes seem to be popular despite some drawbacks because of their relative facility in applying regression and similar statistical analysis.

The major focus of the job evaluation literature has been validity and reliability type questions. These include whether or not job evaluation is influenced by bias and subjectivity, whether or not it can help to determine the comparable worth of jobs, and whether or not different evaluators can come up with the same conclusions having the same information available. Tompkins (1987) addresses several constraints on job evaluation in its role as a possible solution to pay equity. Included in these constraints are the lack of an absolute standard for measuring all jobs, the question of knowing exactly what job evaluation measures, and whether or not one can determine if the results of job evaluation are valid. According to the committee of occupational classification and analysis, a direct attempt to measure the worth of jobs by their content does not require an absolute standard to measure worth across all jobs, and such a standard is not likely to exist in our society (Treiman & Hartmann, 1981). The committee believes that a comparable worth approach to pay requires the employer to decide which characteristics of a job are worth compensating and should be equally considered regardless of the sex, race, or ethnicity of the job incumbents (Treiman & Hartmann, 1981).

Tompkins summarizes the purpose of job evaluation as promoting internal pay equity by establishing the relative

value of each job to others on the payroll, and measuring the content of the job itself rather than the measurement of job worth (1987). Once it is agreed that content is what job evaluation measures instead of job worth then the typical strategies used for validation purposes such as content validity, criterion-related validity, and construct validity becomes useful in demonstrating what job evaluation really measures (Tompkins, 1987).

Many researchers have examined potential areas of bias in job evaluation techniques especially in areas including gender related error and its possible effect on pay equity (Madigan, 1985; Schwab, 1985; Treiman, 1979). There are three possible areas of bias in job evaluation identified by Schwab & Grams (1985). These are direct bias which involves underevaluating the content of jobs held primarily by women compared to jobs held primarily by men, indirect bias where job evaluation judgments are influenced by current discriminatory wages, and sex-of-rater bias in which the gender of the job evaluator influence evaluation ratings (Grams & Schwab, 1985; Mount & Ellis, 1987).

There has been very limited evidence of direct bias as a problem in prior research (Arvey, Passino, & Lounsbury, 1977; Mount & Ellis, 1987), and sex composition of a job on job evaluation (Schwab & Grams, 1985; Mount & Ellis, 1987). Likewise sex-of-rater bias has not been found to affect

either job analysis (Arvey et al., 1977) or job evaluation (Schwab & Grams, 1985). Of the three, researchers have found evidence of indirect bias in which high pay levels result in a higher job evaluation score (Schwab and Grams (1985). Mount and Ellis (1987) found similar results, although to a somewhat lesser degree.

Although potential problems of job evaluation have been researched and written about by numerous authors there has also been frequent consensus that it is better to have a job evaluation scheme than not to have one (Patten, 1988; Elizur, 1987). Many authors agree that it is not only better to adopt a job evaluation scheme, it is also relatively easy to implement a bias-free evaluation technique (Patten, 1988; Tompkins, 1987; and Ghobadian & White, 1987).

Systematic Analyses of Comparable Worth Literature

A nearly overwhelming number of articles on comparable worth as a topic have been written in numerous journals over the last three decades. Although many articles have been published about comparable worth there is no clear sense of what is agreed upon or what is really known about comparable worth. No systematic content analysis has been attempted to review the attitudes of the popular press (Emmert, 1985) or those of academic periodicals and journals. To date only two studies have been performed in which surveys were

conducted to find the general consensus of the population on the topic of comparable worth (cf. Emmert, 1985; and Campbell & Lewis, 1986).

Two additional articles surveyed wage-and-salary administrators and personnel directors, respectively. The purpose of the wage-and-salary administrator survey was to see how the earnings gap and comparable-worth were viewed and to gain a basis for assessing the current and future developments in wage-and-salary administration (cf. Mahoney, Rynes, & Rosen, 1984). The study of personnel directors, among other things, collected definitions of comparable worth and compared them to Remick's operational definition of the term given in 1981. Responses were then categorized into "excellent", "good", "fair", or "poor" answers. 86% of respondents received "excellent" (equal pay for equal work determined by job evaluation) and "good" (equal pay for work of comparable worth, with no specific determination of how this was measured). In the public opinion studies, the number of comparable worth proponents was three times greater than opponents (Campbell & Lewis, 1986) and findings suggest that in general the public is very supportive of the concept of comparable worth (Emmert, 1985; and Klingner, 1986).

Purpose of Study

The purpose of this study is to conduct a content analysis of the literature of comparable worth found in academic journals to determine recommendations of ways to effect comparable worth and trends in attitudes towards comparable worth. Because content analysis is not commonly used in psychology, I will describe how content analysis has evolved and how I will use it in this study.

Content Analysis

Content analysis is a relatively new term which is used to define various types of quantitative and unobtrusive research.

'Content analysis' may be identified as referring to any technique (a) for the classification of the sign-vehicles [italics added], (b) which relies solely upon the judgments (which theoretically, may range from perceptual discriminations to sheer guesses) of an analyst or group of analysts as to which sign-vehicles fall into which categories, (c) on the basis of explicitly formulated rules, (d) provided that the analyst's judgments are regarded as the reports of a scientific observer (Janis, 1949, p. 55).

Holsti (1969), in a definition developed jointly with Stone, Dunphy, Smith, & Ogilvie, states that it is "any research technique for making inferences by systematically and

objectively identifying specified characteristics within text (p. 14)." Berelson (1952, p. 18) calls content analysis "a research technique for the objective, systematic, and quantitative description of the manifest content of communication". Content analysis is especially useful for three general types of research problems: when there are technical advantages because the large volume of material to be examined requires the researcher to 1) confine his/her study to a sample of the population, 2) use a team of assistants, each with his/her own subjective predispositions, or 3) both. The technique is well suited to addressing social scientific research topics and may be applied to almost any form of communication answering the question "Who says what, to whom, why, how, and with what effect?" (Lasswell, Lerner, & Pool, 1952, p. 12; Holsti, 1968, p. 603; Babbie, 1983, p. 274).

In content analysis the message of a communication, as well as the underlying meaning and process of the communication, can be determined (Holsti, 1968). If the sentiment is very strongly for or against a topic, it should be obvious and performing a content analysis should not be necessary. Likewise because content analysis involves counting, it should not be used if the expected results are readily apparent (Zito, 1975).

Research Designs

In content analysis, the researcher may analyze messages to test hypotheses and make inferences about 1) the characteristics of text, 2) causes or antecedents of the message, or 3) effects of the communication (Holsti, 1968). The type of research design adopted is determined by the questions the investigator attempts to answer and the data (Holsti, 1968). In an analysis of text, the analyst may compare documents from a single source over time, in differing situations, and across audiences. Hypotheses may also be tested by comparing two or more different sources of text. In addition, the covariation of two or more variables within a single document, or set of documents, is possible.

Coding Content Data

Coding, an integral step of content analysis, is the process in which raw data are systematically transformed into units of analysis, permitting precise description of relevant content characteristics. It serves as the operational link between the researcher's data and his/her theory and hypotheses (Holsti, 1968).

Category Construction

Category construction is often referred to as the most important aspect of content analysis. The categories are important in setting the tone and determining the substance of the research (Berelson, 1952). As in other research

methods, a conceptual framework must be refined and specific methods for observing must be defined in relation to that framework (Babbie, 1983).

The differences of purpose characterizing content analysis research makes standardization of categories difficult (Holsti, 1968). Because of this lack of standardized classification, the researcher may be faced with trial-and-error methods of constructing appropriate categories. Therefore, the process of category construction is an iterative process, usually entailing moving back and forth from theory to data, testing the usefulness of tentative categories, and modifying categories in light of the data. Each of the subsequent categories obtained should be defined in terms of operations to be performed, and should be mutually exclusive (Zito, 1975).

Units of Analysis

In addition to defining categories in which to classify data, the researcher must designate the size of the units to be coded (Holsti, 1968). For most purposes of content analysis, the theme, a single assertion about a subject, is the most useful unit of analysis. It is indispensable in studies on values and attitudes, although a major drawback to coding themes is that it is time-consuming. The coder must be able to make a judgment to identify the boundaries of the theme, and must be able to reduce text into its

component themes before placing them into their proper categories.

Systems of Enumeration

In addition to the units of analysis, the analyst must choose the unit of enumeration, or the unit in terms of which quantification it is given. These units of enumeration may be identical to the unit of analysis, but more often will be different. Units of enumeration consist of measuring 1) time/space (column inches or amount of time in media), 2) searching for appearance of an attribute, 3) frequency of occurrence, and 4) intensity (for research dealing with values and attitudes).

The researcher must keep in mind that systems of enumeration vary considerably in precision and in time required for coding. The greater the precision and finer the discriminations required by the research problem, the higher will be the costs of analysis. Research entailing maximum precision may also result in sacrificing reliability.

Reliability

For content analysis to be objective, it must also be reliable (Holsti, 1968). The degree of reliability in a given study is a function of the coders' skill, insight and experience, and the categories into which the data are

classified. Thus, the content analyst is concerned with the reliability of both coders and categories.

Individual Reliability

This type of reliability reflects the extent of agreement between any coder and the rest of the judges. This is most frequently measured by tabulating the correlation or percentage of agreement between the scoring of every pair of judges using the same categories (Holsti, 1968; Zito, 1975), although more sophisticated derivatives are often used, such as controlling for frequency of occurrence.

Several methods of increasing individual reliability are available. Experimental research conducted by Kaplan and Goldsen, and Woodward and Franzen, cited by Holsti (1968) demonstrated that training prior to coding can significantly increase the level of interrater agreement. Rereading and rechecking to confirm previously coded material, in addition to coding and/or recoding until achieving a desired consistency will also insure reliability (Babbie, 1983).

Category Reliability

When categories are formulated in content analysis research, they must be set up in a way that the empirical evidence is clear enough to allow a sufficiently high degree of reliability between competent judges (Holsti, 1968).

Reliability of classification is greatly influenced by category definition and the types and number of discriminations to be made (Holsti, 1968).

Training, using clearly defined categories, and introducing additional judges are several approaches to the problem of low reliability. Although individual reliability and categorical reliability have been discussed separately, it may not be apparent to which factor to attribute low reliability.

Validity

Issues of validity concern content analysts much like they do all researchers. The validity of any study is interrelated with its sampling design and reliability, thus adequate sampling and reliability are necessary, although not sufficient, for validity (Holsti, 1968). Content analysts most frequently rely on content validity, also sometimes referred to as face validity. Content validity is usually established through informed judgment of the investigator.

Problems may be likely for validity since the recorded values in the measures may not have been the most representative of that particular measure (Babbie, 1983). For example, articles published in the popular press journals, magazines, or newspapers may not have portrayed the mainstream attitudes or thought of that particular time

period or topic, and the researcher is limited to the data that exists. The problem of validity can be handled by logical reasoning, careful planning of the theoretical basis of study, and by replication.

As the literature review would suggest, there are many comparable worth research issues which could be addressed. In keeping with the purpose of the thesis, the following research issues will be examined about the articles: 1) Time of publication: The concept of comparable worth has been evolving for some time. Articles published during the 1960s, the 1970s, and the 1980s, will be examined for trends in comparable worth. 2) Medium of context: Because new ideas are often fostered in academic sectors first, academic journal articles on comparable worth will be examined and 3) Authors: Because comparable worth is often described as a woman's issue, sex of senior author will also be an important variable to consider. In light of the comparable worth literature and content analysis technique described above, the following hypotheses are proposed.

Hypotheses

1. **Articles published in academic journals in the past decade are more likely to regard comparable worth as an issue (for bad or good) which is here to stay than articles published prior to 1980--also--they may be more likely to define comparable worth.**

The idea that comparable worth is to be taken seriously, as opposed to those which say comparable worth is

just a trend, is expected to be seen more frequently in the 1980s relative to those before 1980. The landmark 1981 Gunther case ruling may have had a strong influence on viewing comparable worth as a serious issue with possible legal backing.

2. **Academic journal articles will mention comparable worth using job evaluation as the necessary solution to pay inequity more frequently than other procedures to narrow the pay gap between men and women.**

The proponents of this method of comparable worth view that persons holding jobs judged as comparable in worth should be paid equally regardless of the labor market influences (Aaron & Lougy, 1986). Job evaluation plans may provide standards for measuring jobs that can discover and reduce wage discrimination for workers covered by a particular plan (Treiman & Hartmann, 1981).

3. **Although most academic journal articles will agree that pay inequity exists, many will not attribute the majority of pay inequity to sex discrimination. They are more likely to attribute the wage gap to other factors: labor market properties, the human capital theory, occupational segregation, and lack of adequate job evaluation.**

The academic body of literature may not be as likely as the popular press or the practitioner literature to take sides on certain issues, especially such controversial issues as sex discrimination. Academic literature also is not likely to discount the economic sources of wage differentials stated above.

4. More articles published in the past decade will have positively coded "attitudes" towards comparable worth relative to those published in the previous two decades.

There is expected to be a statistically significant increase in "pro" comparable worth attitudes during the past 27 years because of the passage of the Equal Pay Act in 1963 and other legislative accomplishments such as the Civil Rights Act in 1964.

5. a. Correcting for growth in journals (# of comparable worth articles divided by the total # of articles), there will have been an increase in the raw number of comparable worth research articles published since the landmark Gunther case.

Since this case was highly publicized as well as being the first of its kind in which plaintiffs won in court despite having jobs deemed as unequal, it is expected to have spurred an increase of interest in comparable worth.

- b1. Has there been a change in attitudes academic journals express toward comparable worth since the Gunther case?

The codings for positive comparable worth attitudes are expected to be statistically higher than the codings for neutral or negative attitudes after 1983 compared to those prior to 1983. Even though the Gunther case was resolved in 1981 a time lag is expected for research and publication time.

- b2. Does the article cite the Gunther case? If so, is there any relation between mentioning the case and attitudes toward comparable worth?

Although the codings for positive comparable worth attitudes are expected to be higher than the codings for neutral or negative attitudes after the Gunther case (compared to those prior to the case), this effect may not be necessarily due to the Gunther case. However, there may be a relationship between mentioning the case and attitudes toward comparable worth.

6. Academic "empirical" research journals are going to differ on attitudes toward comparable worth from academic "theoretical" research journals. Academic empirical articles will tend to be more neutral while academic theoretical articles will tend to have stronger attitudes in both directions toward comparable worth.

The theoretical articles may tend to have a higher degree of hypothetical arguments and views while the academic journals may tend to try to find the specific components of comparable worth by using regression and other statistical analyses.

7. Adjusting for the journal publication time lag, the attitudes toward comparable worth reflected in the published articles will be influenced by political attitudes in play during different political administrations. There will be more articles rated with positive "attitudes" during the Carter administration than during the Reagan administration.

Although this would appear to be a reversal in trend, preliminary study conducted by Emmert (1985) showed that those who identified themselves as Democrats showed a significantly higher degree of support for the comparable

worth issue than those who identified themselves as Republican.

8. a. Is sex of author related to attitudes toward comparable worth in the articles? If so, are female first authors more positive toward comparable worth than male first authors?

Comparable worth is generally a women's issue, and it is suggested that professional women, as well as other women, will clearly benefit as a group (Aldrich & Buchele, 1986). Professional women may be more likely to take interest in comparable worth because the issue is relevant to them; people who have invested in an issue will be more likely to be pro in attitudes toward that issue.

- b. Is the proportion of the wage gap attributed to sex discrimination different for articles written by female first authors than by male first authors?

METHOD

Subjects

An attempt was made to collect, summarize, and analyze all articles on comparable worth published in social science "academic" journals dating from 1963 to the present. To adequately sample the trend in attitudes toward comparable worth, it was deemed necessary to attempt to collect journal articles published from 1963 forward because the Equal Pay Act was passed in that year.

A computerized literature search was performed for the years 1967 to 1989. Additionally, a literature search was performed manually on Psychological Abstracts for the years 1963 to 1967. The articles collected were those that were included in database searches using comparable worth as the key word. The intended journal sample was psychological and social science journals, and business and management journals. The computerized database searches were conducted on PSYCHINFO and ABI/INFORM. PSYCHINFO, formerly known as Psychological Abstracts Database, includes literature in all areas of psychology and behavioral literature in related fields covering the timespan 1967 to the present. This database contains 600,000 full records with 3100 items updated monthly. ABI/INFORM, formerly known as Abstracted Business Information covers the timespan 1971 to the present and provides significant articles appearing in major

business and management journals published worldwide.

ABI/INFORM contains 342,000 citations, adding 50,000 items each year on a weekly basis.

When all existing publications on comparable worth were identified, the articles were screened to narrow further the journals within the topic. This selection device was simply a list of all journals included in the database searches which were identified as catering to the academic or the practitioner world. Due to the vast number of articles written on this topic, it was decided to limit this study to articles within journals identified as primarily academic (see Appendix A). This categorization was determined by the volume and type of research predominantly submitted to each journal. Because this is a study on the population of comparable worth articles, no sampling was conducted.

Procedure

After the articles for this study were selected (n=107), they were then identified into two categories of academic literature: empirical research (n=35) and theoretical and other (n=72). Each article was also classified according to the decade in which it was published: 1963-1969, 1970-1979, 1980-1989. Each journal article was then rated on the following criteria by means of a standardized rating form (see Table 1). Gender of first author, positive or negative changes attributed to

Table 1

Comparable Worth Article Evaluation Sheet

ID# _____ Rater _____

Title _____

Journal/Year _____

Author(s) _____ Sex: ___ female ___ male.

This article is primarily: ___ empirical ___ theoretical/
or other.

How much emphasis was placed on comparable worth?

not discussed	minimal					strongly
						emphasized
0	1	2	3	4	5	

How much emphasis was placed on pay equity?

not discussed	minimal					strongly
						emphasized
0	1	2	3	4	5	

How much emphasis was placed on pay discrimination?

not discussed	minimal					strongly
						emphasized
0	1	2	3	4	5	

Other topics emphasized? (Specify)

At what level was the discussion focused?

___ macrolevel ___ microlevel ___ both.

Specify if necessary:

If comparable worth was mentioned, how is it described?

Are there positive or negative changes attributed to CW?

Is comparable worth a positive or negative concept?

Did the article emphasize societal causes of wage gap or pay inequity rather than discrimination or market wages?

- ☐ job segregation
- ☐ human capital
- ☐ differences
- ☐ legislation
- ☐ union membership
- ☐ socialization/choice
- ☐ other cause

_____ job evaluation _____ societal _____ no remedy
mentioned.
(if societal, which below?)

- _____ job desegregation
- _____ changes in human
- _____ capital/experience
- _____ changes in legislation
- _____ socialization/choice
- _____ increased union membership
- _____ other (specify)

The tone of the article suggests that the authors believe ? about the future of comparable worth.

 CW is here to stay; it will be taken more seriously; it will become common practice.

anytime CW will be around for a while, it will not go away soon.

____ CW is not here to stay; it will not be taken seriously;
it will not become common practice.

Table 1 (continued)

☐ Future mentioned, but uncertain.

☐ No mention of the future of CW.

Was the Supreme Court Gunther case mentioned? ☐ yes
☐ no

If the article did not mention comparable worth, did it suggest/mention that it was pro pay equity? (i.e. equal returns given equal input.) ☐ yes ☐ no.

If the article was against/neutral comparable worth, was it pro pay equity? (i.e. equal returns given equal work.)

☐ yes ☐ no.

Did the tone of the article suggest the authors are:

not for either/ pro pay equity/ in between/ pro comparable worth

0

1

2

3

Additional comments:

comparable worth, comparable worth as a positive or negative concept, attributed causes of pay inequity, identified remedies for pay inequity, mention of the Supreme Court Gunther case, the future of comparable worth, and the overall tone of article (pro comparable worth, pro pay equity, or neither).

Each article was assigned an identification number by the order it was listed in the literature search and was independently rated by two raters (hereafter referred to as rater 1 and rater 2). In all, five raters consisting of the primary investigator, two Psychology department faculty members and two undergraduate students read and rated the articles. Each rater was given a 30-40 minute training session in which all relevant terms, variables and range of options used in the rating sheet were explained. A definition sheet consisting of terms was given to each rater for reference while rating the articles (see Table 2). Additional training (reexplanation of terms and range of options) was given raters when necessary.

Proportion of agreement was calculated for interrater reliability between rater 1 and rater 2. The investigator served as rater 1 for each article, whereas rater 2 for different subsets of the articles varied among the remaining four raters.

Table 2

Rating Description Sheet

Comparable worth:

Equal pay for work of equal value; equal pay for work of comparable value; equal pay for work of equal/comparable value to society or to the employer; equal pay for work of equal/comparable value even though the work is totally different in content.

Pay equity:

Equal pay for equal work; equal returns for equal input; equal pay to men and women for doing equal work; equal pay/equal returns to men and women who do the same work.

Pay discrimination:

Men and women not receiving equal pay for doing the same work; men and women not receiving equal pay for doing similar work; men and women not receiving equal pay for doing work of comparable value to society or to the employer; men and women not receiving equal pay for doing equal/comparable work when they have similar qualifications/education/experience.

Macrolevel research:

Research focusing on job segregation, occupational segregation, occupational choice, socialization, labor market issues, unions, legislation.

Table 2 (continued)

Microlevel research:

Research focusing on job evaluation, or some method of evaluating jobs to come up with a system with which to decide pay or compensation.

Societal causes of wage gap or pay inequity:

Job/occupational segregation due to some type of barrier or choice; wage gap caused by legislation or lack thereof; wage gap caused by educational differences as a result of socialization or choice; wage gap caused by reduced work experience due to socialization or choice; any difference in work or wages as a result of societal influences.

Discriminatory causes of wage gap or pay inequity:

Any difference in pay which cannot be justified or explained by differences in type or amount of work input, education, work experience, or any other human capital explanation. Any difference in pay given to men and women for which the only explanation is the gender of the person performing the work. Any difference in pay caused by intentional discrimination towards either gender (most typically towards women).

Job evaluation type of remedies for wage gap:

Closing the wage gap through job evaluation or any microlevel research. Any type of scheme which

Table 2 (continued)

evaluates jobs and occupations (typically through a quantitative or qualitative method) for the purpose of giving equal compensation for equal/comparable input.

Societal type of remedies for wage gap:

Desegregation of occupations; closing the wage gap through any of the following methods: changing women's educational and occupational emphases; changing women's work patterns; changing the amount or type of women's job experience; changing legislative support or action; changing women's union membership and involvement.

Interrater reliability is often tailored to individual research situations and there is no standard level of acceptance (Holsti, 1968). For this study the targeted reliability was set at .80 agreement. Overall the initial interrater reliability was below the target standard for several variables (see Table 3). Further investigation of interrater reliability by individual raters showed that the ratings between the two faculty raters and the primary investigator attained a level of acceptable reliability. The interrater reliability between the faculty raters and the investigator suggested that reliability was improved when "expert" raters coded the articles (i.e. raters who have prior experience and familiarity with the comparable worth topic). It was decided to analyze the research questions using the data set coded by rater 1 because her ratings were consistent with the faculty ratings.

Analyses

Means, percentages, and frequency distributions were obtained for all of the major variables. Second, Z was calculated using the Sign Test for dependent samples to analyze hypotheses 2 and 3. Finally, SPSS/PC+ Crosstabs (Norusis, 1987) was used to calculate the Chi-square statistic to analyze hypotheses 5b2, 6 and 8.

Table 3

Interrater Reliability			
Variable	Faculty Ratings	Student Ratings	All Ratings
1. Level	.88	.73	.80
2. Societal Cause	1.00	.77	.87
3. Job Segregation	.86	.68	.76
4. Human Capital	.75	.79	.77
5. Legislation	.86	.55	.69
6. Union Involvement	.94	.77	.84
7. Socialization/Choice	.66	.83	.76
8. Other Cause	.94	.89	.92
9. Sex Discrimination	.77	.77	.77
10. Market Wage Cause	.77	.64	.70
11. Job Evaluation Remedy	.83	.76	.79
12. Societal Remedy	.88	.67	.77
13. Desegregation Remedy	.90	.82	.86
14. Human Capital Remedy	.98	.90	.93
15. Legislation Remedy	.85	.71	.71
16. Socialization Remedy	.93	.86	.89
17. Union Remedy	.98	.92	.94
18. Other Remedy	.88	.71	.79
19. No Remedy	.93	.78	.84

Table 3 (continued)

20. Gunther Case	1.00	.96	.98
21. Pay Equity	1.00	.96	.98
22. Pro Pay Equity	.96	.85	.89
23. Change	.85	.68	.76
24. Concept	.90	.74	.81
25. Tone	.91	.77	.83
26. Future	.85	.80	.82

RESULTS

Interrater Reliability

Interrater reliability was first obtained for all of the major variables. As can be seen in Table 3, the reliabilities for ratings between rater 1 and the faculty raters were consistent. The data coded by rater 1 were used to obtain the following results.

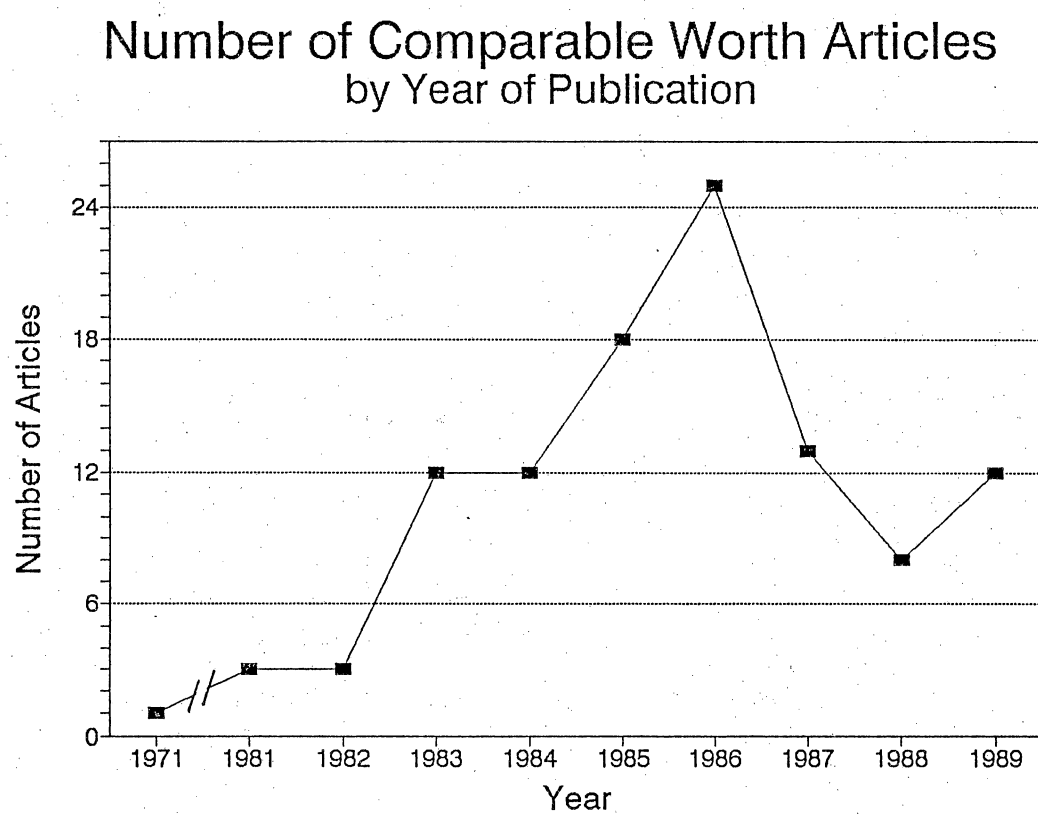
Hypothesis 1

Hypothesis 1 predicted that academic journal articles in the past decade would be more likely to regard comparable worth as an issue which is here to stay as compared to articles published prior to 1980. After collecting the data it was discovered that only one article was published prior to 1980 whereas 106 articles were published between 1980 and 1989 (see Figure 1). Therefore, this hypothesis could not be tested. However, the trend of number of articles could suggest that the issue remains a popular item in academic journals.

Hypothesis 2

Hypothesis 2 predicted that when academic journals supported a solution, they would mention comparable worth using job evaluation as the solution to narrow the wage gap more frequently than other procedures. To test this hypothesis, Sign Tests for nonparametric dependent samples were calculated for the following: Job evaluation by

Figure 1.



societal remedies, occupational desegregation as a remedy, increasing female human capital as a remedy, changing legislation, changing occupational socialization/choice, increasing union membership, and "other remedies" not previously stated. Job evaluation and societal changes were the two major categories of remedies. All other solutions were subcategories of societal remedies.

There was no significant effect for job evaluation by social remedies as a whole or for job evaluation by the variable called "other remedies". Job evaluation by the subcategories of societal remedies (desegregation, human capital, legislation, socialization/choice, and union involvement remedies) were significant at the $p < .01$ level (see Table 4). These results signify that within the solutions given by academic journal articles to close the wage gap, job evaluation was preferred over all other societal subremedies.

Hypothesis 3

This hypothesis assessed whether that academic journals were more likely to attribute the wage gap to factors other than sex discrimination. "Other factors" consisted of two main categories, societal causes and market causes. Societal causes of the wage gap consisted of the following subcategories: Job segregation, human capital factors, legislation, union involvement, socialization/choice, and

TABLE 4

Percentages and Comparison of Solutions to Pay Inequity
Emphasized in Academic Journals

	<u>N</u>	% of Articles	<u>Z</u>
1. Job evaluation	54	.50	
2. Societal remedies	50	.47	-0.37
a. Job desegregation	15	.14	-4.95**
b. Changes in human capital/ experience	10	.09	-5.56**
c. Changes in legislation	23	.21	-4.12**
d. Socialization/choice	09	.08	-5.93**
e. Increased Union membership	16	.15	-4.78**
f. Other	30	.28	-2.97**

** $p < .01$

Note: Sign Tests compared job evaluation with all other categories listed.

"other" not mentioned above. The Sign Test was used to test significance of attribution of the wage gap to societal causes, job segregation, human capital factors, legislation, union membership, socialization/choice, other causes, and market wage causes versus sex discrimination (see Table 5).

This hypothesis was partially supported in that academic articles attributed societal causes of the wage gap significantly more often than sex discrimination ($p < .01$). However, no individual subcategories of societal causes were mentioned significantly more often than sex discrimination. Likewise, mention of market causes did not occur more frequently than sex discrimination ($p > .05$).

Hypothesis 4

Hypothesis 4 predicted that proportionately more articles published in the past decade would have positively coded "attitudes" towards comparable worth as compared with articles published in the 1960s and 1970s. This hypothesis could not be tested because only one article was published prior to 1980.

Hypotheses 5

Hypothesis 5a

Hypothesis 5a predicted an increase in the raw number of comparable worth articles published since the landmark Gunther case but could not be analyzed because only one article was found for the first comparison group: However,

TABLE 5

Percentages and Comparison of Causes of Wage Gap Emphasized
by Academic Journal Articles

	<u>N</u>	% of Articles	Z
1. Societal causes	79	.77	-2.49**
a. Job segregation	70	.68	-1.33
b. Human capital differences	33	.32	6.48
c. Legislation	8	.08	6.87
d. Union membership	8	.08	6.74
e. Socialization/choice	24	.24	4.58
2. Sex discrimination	59	.58	
3. Market wages	54	.53	0.54

** $p < .01$

Note: Sign Tests compared sex discrimination with all other categories listed.

Sign Test is directional, values must be negative.

finding only one identified comparable worth article prior to 1981 could suggest partial support for this hypothesis.

Hypothesis 5b1

Hypothesis 5b1 predicted a change in attitudes academic journals would express toward comparable worth since the Gunther case. As in hypotheses 1, 4, and 5a, an analysis could not be performed to support this hypothesis because of insufficient data prior to 1981.

Hypothesis 5b2

Crosstabulations were performed on "attitudes" toward comparable worth by mention of the Gunther case.

"Attitudes" toward comparable worth were measured by the following three scales: 1) change as a result of comparable worth; positive, neutral, or negative, 2) concept of comparable worth; positive, neutral, or negative, and 3) tone of the article; pro comparable worth, in between comparable worth and pay equity, pro pay equity, and pro neither comparable worth or pay equity.

Originally, the variables change and concept consisted of six categories; ranging from 1 (negative), 3 (neutral), to 5 (positive), with a 0 category for equal positive and negative. Because of numerous empty cells and more than 20% of the cells with a frequency less than 5, it was decided to collapse 1 and 2 into 1 (negative), 3 and 0 into 2 (neutral), and 4 and 5 into 3 (positive) for both of these

variables. The Chi-squares for mention of the Gunther case by change, concept, and tone were not significant ($p > .05$, see Table 6). Multiway frequency analyses had been intended for the multiple predictor variables consisting of "attitude" but were not possible because of either empty cells or 20% or more of the cells had frequencies less than 5.

Hypothesis 6

This hypothesis predicted a relationship between academic journal type, either empirical or theoretical, and "attitudes" toward comparable worth. Chi-squares were performed for type of journal by change, concept, and tone.

The Chi-squares for type of journal by change, and type of journal by concept were significant at the $p < .05$ level. As can be seen by Table 7, academic empirical journals viewed change and concept of comparable worth as less negative and more neutral than did theoretical journals. There was virtually no difference between empirical and theoretical articles in positive attitudes toward change attributed to comparable worth (.43 and .44), although empirical articles viewed the concept of comparable worth as more positive than did theoretical articles. The Chi-square for type of journal by tone was not significant ($p > .05$). Therefore hypothesis 6 was only partially supported.

TABLE 6

Percentages of "Attitudes" Toward Comparable Worth by
Mention of Gunther Supreme Court Case

"Attitude" variable	Yes	No
Change attributed to comparable worth		
1. Negative	.18	.24
2. Neutral	.42	.39
3. Positive	.40	.37
$\chi^2_{(2, N = 105)} = 0.51, p > .05$		
Concept of comparable worth		
1. Negative	.13	.23
2. Neutral	.31	.35
3. Positive	.56	.42
$\chi^2_{(2, N = 105)} = 2.72, p > .05$		
Tone of article toward comparable worth		
1. Not for either	.04	.13
2. For pay equity	.24	.26
3. In between	.22	.20
4. For comparable worth	.22	.41
$\chi^2_{(3, N = 100)} = 2.58, p > .05$		

TABLE 7

Percentages of "Attitudes" Toward Comparable Worth by Type of Journal

"Attitude" variable	Empirical	Theoretical/ Other
Change attributed to comparable worth		
1. Negative	.06	.31
2. Neutral	.49	.36
3. Positive	.46	.33
$\chi^2_{(2, N = 107)} = 8.36, p < .05, C = .27$		
Concept of comparable worth		
1. Negative	.03	.26
2. Neutral	.43	.28
3. Positive	.54	.46
$\chi^2_{(2, N = 107)} = 8.96, p < .05, C = .28$		
Tone of article toward comparable worth		
1. Not for either	.03	.12
2. For pay equity	.23	.25
3. In between	.26	.21
4. For comparable worth	.48	.42
$\chi^2_{(3, N = 102)} = 2.67, p > .05$		

A post-hoc breakdown of type of journal into 5 subcategories of academic discipline consisted of the following: 1) Psychology, $N = 20$, 2) Management, $N = 36$, 3) Economics, $N = 12$, 4) Law, $N = 17$, and 5) Other, $N = 12$ (Current topics, Education, Sociology/Psychology, and Economics/Sociology). These academic subcategories were crosstabulated with "attitudes" toward comparable worth. Crosstabulations for all three "attitudes" by journal subcategories were significant. The Chi-square for "change" by subcategory of journal was equal to $21.06(8, N = 107)$ $p < .01$, $C = .41$ (see Table 8). The Chi-square for "concept" by subcategory was equal to $21.14(8, N = 107)$ $p < .01$, $C = .41$ (see Table 9). The Chi-square for "tone" by subcategory was equal to $21.08(12, N = 102)$ at $p < .05$, $C = .41$ (see Table 10). equity.

Hypothesis 7

This hypothesis predicted that adjusting for journal publication time lag, attitudes toward comparable worth would be influenced by the major political attitudes held in presidential office. This hypothesis could not be tested because of a lack of adequate data for articles published during the Carter administration. ($N=1$ versus $N=106$ for articles published during the Reagan administration.)

TABLE 8

Percentage of "Attitudes" Toward Comparable Worth Change by
Type of Academic Discipline

	Negative	Neutral	Positive
1. Psychology	.00	.40	.60
2. Management	.14	.47	.39
3. Economics	.25	.50	.25
4. Law	.37	.41	.22
5. Other	.50	.08	.42

$$\chi^2_{(8, N = 107)} = 21.06, p < .01, C = .41$$

TABLE 9

Percentages of "Attitudes" Toward Comparable Worth Concept
by Type of Academic Discipline

	Negative	Neutral	Positive
1. Psychology	.00	.30	.70
2. Management	.11	.31	.50
3. Economics	.25	.42	.33
4. Law	.26	.44	.30
5. Other	.50	.08	.32

$\chi^2_{(8, N = 107)} = 21.14, p < .01, C = .41$

TABLE 10

Percentages of Comparable Worth Tone by Academic Discipline

Discipline	Pro neither	Pro Pay Eq.	In bet.	Pro CW
1. Psychology	.00	.05	.35	.60
2. Management	.03	.26	.20	.51
3. Economics	.26	.25	.33	.17
4. Law	.17	.31	.17	.35
5. Other	.08	.42	.08	.42

$$\chi^2_{(12, N = 102)} = 21.08, p < .05, C = .41$$

Hypothesis 8

Hypothesis 8a.

To test the hypothesis that sex of author would be associated with "attitudes" toward comparable worth (change, concept, and tone), three chi-squares were performed. Chi-squares performed on sex by change and sex by tone were significant at the $p < .01$ level (see Table 11). The Chi-square performed on sex by concept was significant at the $p < .05$ level. Female first authors considered change associated with comparable worth policy to be more positive as compared with male first authors. The concept of comparable worth was viewed as more positive by female first authors than by male first authors. Likewise, the overall tone of articles by female first authors were rated as more positive than those by male first authors. This hypothesis was supported by all three "attitude" variables.

Hypothesis 8b

This hypothesis could not be tested because articles published on this topic did not break down the overall wage gap into portions attributed by individual factors. Therefore, it was not possible to analyze the difference between proportion of wage gap attributed to sex discrimination by female or male first authors.

TABLE 11

Percentages of "Attitudes" Toward Comparable Worth by Sex of First Author

"Attitude variable"	Female	Male
Change attributed to comparable worth		
1. Negative	.10	.30
2. Neutral	.33	.45
3. Positive	.57	.25

$$\chi^2_{(2, N = 107)} = 12.25, p < .01, .32$$

Concept of comparable worth		
1. Negative	.08	.25
2. Neutral	.27	.36
3. Positive	.65	.39

$$\chi^2_{(2, N = 107)} = 8.35, p < .05, .27$$

Tone of article toward comparable worth		
1. Not for either	.00	.14
2. For pay equity	.15	.30
3. In between	.21	.24
4. For comparable worth	.64	.32

$$\chi^2_{(3, N = 102)} = 13.55, p < .01, .34$$

DISCUSSION

Summary and Discussion of Current Findings

This present study differed from previous studies on both the population examined and the types of questions asked. Because it was limited to written documents, questions were also limited to those which could be widely generalized to the population and extracted from text.

Results supported the following: 1) job evaluation as a solution to pay inequity was advocated more often than any other single specific solution to close the wage gap although it was not mentioned more often than the categories of all societal methods or "other" methods. 2) Academic journal articles were more likely to attribute pay inequity and the wage gap to overall societal factors and market wage factors rather than to sex discrimination. The articles, however, did not attribute the wage gap to any single specific cause under the category of societal causes more often than sex discrimination. 3) The type of journal in terms of academic empirical and academic theoretical differed significantly on attitudes regarding change attributed to comparable worth as well as on attitudes toward the concept of comparable worth. They did not differ on the overall tone of the articles toward pay equity and comparable worth, however. 4) Sex of first author was related to attitudes toward comparable worth, measured more

specifically by change attributed to comparable worth and overall tone of the article considering pay equity and comparable worth. Sex was not found to be related with attitude toward the concept of comparable worth.

Job evaluation was expected to be advocated as the primary solution to pay inequity because it is the vehicle by which the comparable worth of different jobs is assessed. Without some measure of the relative value of a job, the purpose of comparable worth, to pay equal wages to men and women for performing jobs of equal value, would be impossible, as well as irrelevant. In addition, many of the strongest advocates of comparable worth and pay equity unequivocally associate job evaluation together with comparable worth (for example, Winn Newman, Remick, Grune and Reder, Treiman and Hartmann).

Job evaluation, however, is not free from all criticisms, by far. It is often referred as both the solution to and cause of pay inequity and sex discrimination (cf. Treiman, Hartmann & Roos, 1984; and Bergmann & Gray, 1984) as well as the way in which sex-based discrimination is assessed (cf. Remick, 1984; and Pierson, Koziara, & Johannesson, 1984). Job evaluation has been credited with being the best solution available at present although it is far from establishing perfection (Booker & Nucholls, 1986) and changes would have to be made for it to be unbiased

(Collett, 1983; Arvey, Maxwell, & Abraham, 1985). For these reasons, the literature could support both job evaluation and methods other than job evaluation (societal remedies) as the best solution to close the wage gap.

One reason that overall societal solutions to the problem of the wage gap may have been mentioned more often than job evaluation could be due to the rating procedure of the articles. All possible techniques suggested to close the gap were included for each article. Many articles suggested using more than one method, for example, job evaluation along with other societal methods as a solution. Because in numerous articles it was difficult to establish which of several solutions given was emphasized most strongly, it was decided to include all solutions which applied. Nevertheless, the dispersion of pay inequity solutions (see Table 4) are suggestive. Most of the solutions endorsed within the rated articles could be considered to be as macro-based, requiring broad and wide-ranging changes (i.e., changes in legislation or job desegregation).

The second supported finding is that academic journal articles were not as likely to blame the wage gap primarily to sex discrimination as compared to other factors. This could be due not only to the fact that sex discrimination and its corresponding extent is often difficult to

establish, but also to the indirect way it is often measured (i.e. all possible explanations such as job segregation, human capital factors, hours worked, and market wages are attributed their share of the wage gap, after which the remaining gap unaccounted for may be more or less attributed to sex discrimination). Again, as with the proposed solutions, the rated causes of pay inequity suggest that individual choices are less likely causes than factors beyond an individual's control (i.e., market wages).

Some support can be found in the literature which says that the wage gap is primarily due to sex-based discrimination (cf. Remick, 1981; Mount & Ellis, 1987). More commonly, the cause of the wage gap is not solely blamed on sex-based discrimination, but rather on sex-based discrimination in addition to other factors such as job segregation (cf. Ferraro, 1984). The cause of the wage gap has also been blamed on factors other than discrimination (such as job evaluation methods) which in turn are deemed discriminatory (cf. Schwab & Wichern, 1983).

For finding #3, that academic empirical and theoretical articles differed significantly on change and concept of comparable worth, percentages showed that a greater amount (49%) of academic articles rated change brought on by comparable worth to be neutral, a few viewed it to be negative (06%), and 46% viewed it as positive. On the other

hand, academic theoretical articles were more evenly distributed within each of the three categories (.31 negative, .36 neutral, and .33 positive). For the concept of comparable worth, academic empirical journals viewed it as negative only 03% of the time, neutral 42% of the time, and positive 54% of the time; theoretical articles viewed it to be negative 26%, neutral 28%, and positive 42% of the time.

The post-hoc analyses of attitudes by subcategory of journal showed that Psychology and Management journals were more positive toward the issue of comparable worth. For change brought on by comparable worth policy, both Psychology and Management journals regarded it as more positive than negative. Economics, Law, and Other journals either viewed comparable worth equally positive as negative or more negative than positive.

Once again, for "concept" of comparable worth by subcategory, Psychology and Management journals were much more positive than negative. Economics, Law, and Other journals were either slightly more positive than negative or slightly less negative than positive.

The crosstabulation between "tone" and subcategory showed that Psychology and Management journals supported comparable worth to a higher degree than Economics and Law journals, and were much less "not for either" comparable

worth or pay equity. "Other" journals were quite supportive of comparable worth (42%) and did not oppose either comparable worth or pay equity to a high degree (8%). In Economics and Law journals, articles were evenly split between "not for either" or "pro only pay equity" and "in between comparable worth" or "pro both comparable worth and pay equity".

A possible explanation of why there were differences between academic disciplines could be because Psychology and Management fields tend to focus on the individual person (or worker) and are generally more supportive of societal issues as compared with Economics and Law. The Economics and Law fields tend to be more concerned with institutions, the flow of economy, and the so-called "corrective" features of the market wage structure.

For both the variable called "change" and "concept", for many articles these concepts were embedded within text, making it difficult at best to conduct the rating. Although it was not uncommon to have to make a subjective judgment by mere "intuition" or "gut feeling", the interrater reliability was at an acceptable level for the major variables. This process of rating could be conducive to making a greater percentage of neutral judgments as compared with an objective measure such as counting the number of occurrences of specific words, for example.

Another reason a greater percentage of academic empirical articles were rated as neutral could be because many appeared not to take sides, rather they either viewed their responsibility to provide the reader an objective and informative argument for both sides of the issue leaving judgment up to the individual reader, or they merely conducted and reported their own research without taking sides on the issue of comparable worth (cf. Grams & Schwab, 1985; Mahoney & Blake, 1987).

In terms of the nonsignificant difference of type of journal and overall tone of article, the variability between academic empirical and theoretical research articles was not great. Both types of journals tended to be more positively supportive of the comparable worth issue and less non-supportive of either pay equity or comparable worth (of empirical articles, .48 supported comparable worth, .03 did not, of theoretical articles, .42 supported comparable worth, .12 did not). There was very little variability between academic empirical and theoretical research articles for "pro pay equity" (.23 empirical and .25 theoretical) and "somewhere between pay equity and comparable worth" (.26 empirical and .42 theoretical). Overall there was not enough variance to effect a significant difference.

As with the case of change and concept, for many articles the "tone" was not readily apparent because authors

did not often invoke the issue of pay equity, hence causing difficulty in making a decision regarding tone of article (whether pro pay equity or pro comparable worth). For articles which were not supportive of the comparable worth issue, the judgment of whether the article was pro pay equity was an added difficulty when the issue was not addressed directly.

Female first authors were expected to be more supportive toward the overall theory of comparable worth than male first authors. This was supported by all three "attitude" variables. Articles authored by women considered changes brought on by comparable worth policy to be positive 57% of the time as compared to 25% for articles written by males. Articles written by women expressed support in their overall tone towards comparable worth 64% of the time as opposed to only 32% of articles written by males. Articles written by women viewed the "concept" of comparable worth as more positive than did those written by men (65% versus 39%). This was expected in that comparable worth has been repeatedly dubbed not only a discrimination issue (Newman, 1982) but also "a woman's issue" because women tend to receive depressed wages as a result of occupational segregation and sex discrimination (Ferraro, 1984). Comparable worth is also regarded as a gender related issue

because women are seen as the most probable recipients of increased wages resulting from such legislation.

In the survey of public opinion conducted by Emmert in 1985, women were much more supportive of the theory of comparable worth. Along the same lines, in their 1986 interview of Georgia residents, Campbell and Lewis found women favor comparable worth more strongly than men, although not by a large difference. Single women working full time with some college education were the strongest advocates of comparable worth; it is estimated that this group would benefit most from a comparable worth policy.

The association of mentioning the landmark Supreme Court Gunther case with attitudes toward change attributed to comparable worth, the concept of comparable worth, or to the overall tone of the articles was not supported. It was expected that acknowledgement of the Gunther decision would be associated with positive attitudes toward comparable worth. It has been stated that the Gunther case has opened the door for (the promotion of) comparable worth (Lorber & Kirk, 1983). Although positive attitudes were expressed more often by articles which mentioned Gunther than by those which did not mention the case (40% versus 37% on change, 56% versus 42% on concept, and 50% versus 41% on tone), these percentage differences were not significant.

On further reflection, it seemed plausible that the mention of Gunther would not necessarily portend positive attitudes. Some authors, for example, would mention the Supreme Court case as the version for why comparable worth will not become the 'law of the land' since Gunther could be considered "sidestepped" comparable worth.

The sample did not have enough data to test the following: 1) Whether articles published in the most recent decade regarded the concept of comparable worth as an issue that was here to stay, rather than a passing trend; 2) whether the articles published in the 1980s were more supportive towards the comparable worth issue than articles published in the prior two decades. 3) Whether there was an increase in raw number of articles published on comparable worth since Gunther; 4) whether a change in attitudes toward comparable worth have been expressed since Gunther; and 5) whether the attitudes expressed by published articles are associated with the attitude toward comparable expressed by the presidential administration in rule.

The lack of articles published in prior decades can be supported by literature which says that in the 60s and 70s equal pay, affirmative action, and equal opportunity were the major social issues, whereas in the late 70s and 80s the shift has been towards equity instead of equality (no longer requiring equal work situations) (Makela, 1985).

Stonebraker and LaVan (1987) cite Milkovich and Broderick (1982) who say that there had not been much attempt to define comparable worth through the 70s. In an article by Risher and Cameron (1981), comparable worth was explained as a yet undefined concept. Also commonly seen was the idea that comparable worth was the major discrimination issue of the 80s (cf. Leach & Werley, 1983). Therefore it would not be incorrect to consider comparable worth a relatively new topic, without much focus prior to the 1980s.

Referring again to Figure 1, p. 72, the trend of articles published in the 1980s can suggest that the increase in publications from three articles in 1981 and 1982, to twelve articles in 1983 and 1984 could have been a reaction to the Gunther Supreme Court case (taking into account one year of journal publication lag). Likewise, the increase in publications from twelve in 1984 to 18 in 1985, and the "peak" of 25 publications in 1986 could have been a sociopolitical reaction to the atmosphere of the Reagan presidential era.

The data did not provide the appropriate information needed to establish whether the proportion of the wage gap attributed to sex discrimination is different for articles written by female or male first authors. Although articles acknowledge the wage gap and often report the extent of it,

there was no indication of a breakdown of proportion of the total wage gap attributed to sex discrimination.

In the study of public opinion on comparable worth by Emmert (1985), political party affiliation was significantly related to support for comparable worth, with Democrats most supportive of the issue. Although in this study it would not have been possible to know the party affiliation of individual authors, if there had been a normal distribution of articles published within the reign of the Carter and Reagan administrations, the attitudes expressed toward comparable worth corresponding to those years would have been analyzed.

Suggestions for Future Research

Ideally, if the data had allowed the possibility, a multiway frequency analysis table would have been used to assess the relationship between the multiple predictor variables (change, concept, and tone) and also with Gunther, type of journal, and sex of first author as dependent variables. Relationships among the independent variables could also be established using this technique. However, multiway frequency analysis, like its univariate Chi-square is a nonparametric test with one limitation (see Tabachnick

& Fidell, 1989), identified as reduced expected cell frequency.

Although there would not have been an increase in Type I error in using this analysis for the current study, with more than 20% of cells with less than five cases and any cells with less than one case, the opposite effect, i.e. a dramatic decrease in power, would have rendered the analysis meaningless. Only two ways to increase the expected cell frequencies exist: 1) increase sample size and 2) continue sampling until all cells are filled. Because this study was done on the population of comparable worth articles, neither of these two remedies was possible.

The major suggestion for future research following this study remains to include the larger population of comparable worth articles, which includes both academic and practitioner journals, as first planned. This will provide a larger sample, perhaps with a more normal distribution of publication dates, and do away with the need to collapse the six categories within attitudes toward change and concept of comparable worth into three categories.

In addition to the above suggestion, the second major suggestion for future research is to identify and retain articles published in the 60s and 70s which give the same concept as the current term "comparable worth" but do not mention this specific name, to be included in the analysis.

In the present study, all articles which did not use the term comparable worth, or did not emphasize comparable worth by name were selected out of the sample. One article by Pinzler and Ellis (1989) included the term "comparable worth" in the title of their article but aside for the introduction did not use the term in the text. It was explained that since comparable worth is not currently required by law but because sex- and race-based discrimination is illegal, from a legal perspective it is necessary to write in terms of discrimination and not comparable worth.

An objective criterion on which to identify comparable worth if the specific term was not used should be established so that all articles which talk about the concept can be included. This is a suggestion and not all inclusive, but one possible alternative (which is also the most plausible) is using Remick's definition of comparable worth as a comparison (i.e. the use of job evaluation to set wages and salaries as well as rank-ordering jobs).

Conclusion and Summary

In conclusion, the findings indicate that comparable worth articles advocated job evaluation as a method to close the wage gap more often than any other individual method (although not more often than the overall category of "societal remedies"). Academic journal articles attributed

the major proportion of the wage gap to societal and other causes rather than to discrimination. Academic type of journal (empirical or theoretical) was significantly related to attitudes toward comparable worth, measured by the variables "change" and "concept". Empirical articles were more positive towards the issue of comparable worth than were theoretical articles. Additionally, sex of first author was significantly related to attitudes toward comparable worth, measured by the variables "change", "concept", and "tone". Female first authors were more supportive of the comparable worth issue as compared to male first authors.

Although one objective of this study was to determine recommendations of ways to effect comparable worth, there are limits on objectives, and in this case the data could not provide a reasonable basis to make this determination. Trends, aside from those within the 1980 decade, could not be tested.

APPENDIX A

Reference List of Examined Articles

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